What we really want in caring for older people: user-involvement in fall technology development

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Background

People aged 65 years and older comprise the age group most affected by falls. The severity of fall consequences is determined by the amount of time spent lying on the floor. Therefore, the use of technology for fall alerting is crucial in order to receive prompt assistance.

Introduction

However, to date, needs and requirements of users regarding fall alerting technologies are hardly considered. The users' needs and requirements are particularly relevant for nurses who support and counsel older people with a risk of falling. Improper and infrequent use has been reported, indicating an endangerment of the safety and activity of older people. Therefore, user involvement seems very important in improving requirements and practical aspects related to the daily use of fall alerting technologies.

Aim including research question

The aim of this study was to consider the user's voice. The following research question guided the study; what are the daily needs and requirements from the perspective of community-dwelling older people that should be considered in the development of a wearable fall detection sensor and its smartphone application?

Materials and Methods

A qualitative descriptive design using a nurse-led, user-centred approach was applied. The device was developed over a two-year period by involving community-dwelling older people in two stages: 1) in designing and prototyping, 2) in a field trial lasting eight days. For data collection, we used interviews, questionnaires and a diary. The data were analysed by applying content analysis and descriptive statistics.

Results

22 persons participated in the first stage and 15 in the second stage; the average age was 80.7 years. A lightweight, waterproofed sensor with high wearing comfort and an automatic alerting system was important for the participants. The smartphone application was evaluated as being easy to use. The battery consumption of the smartphone was high and did not fulfil the requirements of the users. Having time to manually stop an alert was considered as being important. It was revealed that choosing the right contact persons to be alerted might be challenging. Moreover, it becomes apparent that relatives and specialised staff play a key role in the older person's use of a device.

Conclusions

To know the users' requirements and what they expect from technologies in daily use might enable nurses to better focus on patients' needs and on the development of nurses' own role in supporting and counselling older people in the context of health-related technology use.